



# Office of Enterprise Technology

## FY2014 Business Value Report

Creating Business Value for Maricopa County

### **Maricopa County**

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# FY2014

# Strategic Priorities

## GREAT PEOPLE

Build a professional and energetic team

## CYBER SECURITY

Strengthen the County's information assets

## FIRST-CLASS SERVICE

Exceptional service to all customers, all the time

## IMPROVED RELIABILITY

Ensure reliability and access to services

## SMART INVESTMENTS

Deliver solutions that reduce total cost of ownership

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## CIO Letter

Welcome to our second edition of the OET Business Value Report. As we closed last year's edition, we identified several "Looking Forward" challenges and priorities OET would face in Fiscal Year 2014, including organizational development, financial management, cyber security, project management, and customer service. Because OET's mission is to provide proven, innovative, and cost-effective technology solutions to County departments so they can transform their operations to best serve their customers and citizens, improvements in business efficiency and employee productivity were more important than ever. In this year's report, you will find compelling examples of how OET delivered business value for Maricopa County.

As outlined in OET's recently published Strategic Plan, the key to our success begins with great people – IT professionals that focus on customer service and solutions that enable County departments to meet the new challenges of delivering services to citizens and employees in a digital world. We recognize that the solutions we work to develop for the County can significantly impact the ability to create a meaningful and satisfying interaction with our citizens. As such, our people are dedicated to exploring new opportunities to work in partnership with County departments, business partners, and regional groups to understand their business challenges and work together to innovate service delivery.

We also recognize the importance of ensuring the information security of the County. During Fiscal Year 2014, priority was placed on enhancing the County's security posture to protect our employees and citizens from the ever-increasing threat of cyber security attacks. As part of OET's Fiscal Year 2015 budget submission, additional investments will be made to strengthen our ability to defend against these attacks.

Lastly, we recognize that every dollar invested in IT is a dollar not invested elsewhere in the County. As the County and other jurisdictions continue to recover from the difficult economic climate of the previous five years, fiscal accountability and lean government continues to be of utmost importance. As such, OET will continue its focus on smart investments that drive business value, reduce long term operational expenditures, and improve customer service.



**David L. Stevens**  
Chief Information Officer  
Maricopa County

## OET creates value for the County by:

### Enabling Productivity

- Make service to constituents a key design objective for systems that serve citizens and businesses
- Deliver solutions that provide County departments the ability to transform their service delivery for more meaningful customer and citizen interactions
- Deliver smart investments in technology that improve business and employee productivity

### Aligning Solutions to Business Needs

- Partner to deliver cost-effective solutions
- Provide technology expertise to oversee large technology initiatives

### Improving Cyber Security

- Reduce risk by maintaining information security operations
- Protect the information assets of the County

### Delivering Efficiency and Continuity

- Reduce total cost of ownership by factoring ongoing flexibility and low-cost maintainability into design and approach
- Deliver projects with predictability and quality
- Provide reliable, scalable, and stable infrastructure to enhance the computing experience for County employees

Operational Profile  
**A Look Inside OET**



**WHO WE ARE**

OET Employees: 204  
 Contractors: 157  
 Sites: 250  
 Data Centers: 3

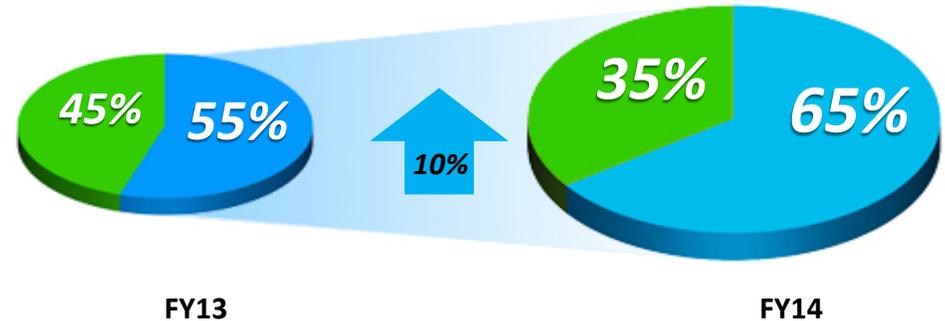
**WHO WE SUPPORT**

County Employees: 14,000  
 County Population: 3.9M  
 Geography: 9,221 square miles  
 County Departments: 55

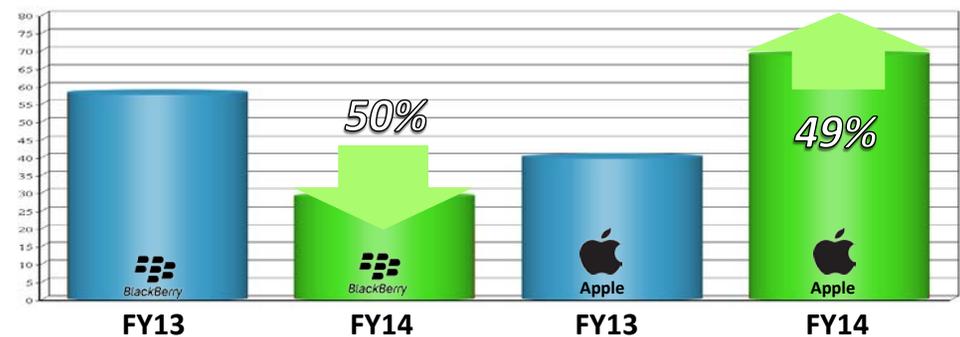
**McUnify Project (VoIP Adoption)**

<i>Phones Deployed</i>	<b>978</b>	<b>2,613</b>
<i>Departments Involved</i>	<b>10</b>	<b>20</b>
<i>Buildings with VoIP</i>	<b>8</b>	<b>12</b>
	<b>FY13</b>	<b>FY14</b>

**Server Virtualization**



**Mobile Device Ratio (County Issued)**





First-Class Service

## Supporting the County

Customer satisfaction is the driving factor for all employees of OET. Priority and focus is placed on delivering outstanding customer service that leads to the highest levels of satisfaction for our customers.

*“We recognize that the work we do, the solutions we develop, are an important factor in each County department’s capability and goal to deliver innovative services to Maricopa County citizens.”*

- David L. Stevens, Chief Information Officer

## Connecting with Customers

OET’s Business Integration Services (BIS) was formed by the CIO in mid-2013 to focus on strategic interaction with all County Departments.

The mission of the BIS team is to partner with County departments to understand their long-term business plans and support departments in the development of technology solutions that help them to advance their mission.

### Long-term approach

Working with departments, Business Integration Specialists develop solutions to resolve business issues and provide innovative approaches to enhancing departments’ capability for delivering exceptional customer service.

More and more, departments are working to transform their service capabilities to enhance their interaction with customers to provide convenient, timely, and cost-effective services. At the same time, these solutions provide employees with improved tools that enable significant enhancements to their productivity, thereby reducing cost of service.

### Cost Effective

The effective implementation of technology creates opportunity for lower cost of service while improving service delivery. As you will see on the following pages, OET has partnered with County leadership within departments to identify innovative solutions that enhance mobility, the development of electronic services, and improved citizen engagement through online services.

### Customer Relationship Management

The BIS team created department profiles to enhance OET’s understanding of each department’s operations and business models. With this understanding, OET is able to ensure coordinated efforts across all disciplines of OET in a manner that is well coordinated and integrated into the business operations of our diverse customer base.

Additionally, through these coordinated efforts, OET is improving our timeliness and quality of service, and ensuring our technology professionals understand the nature of the businesses they serve.

# Partnering for Results

**Strong partnerships between OET and Departments have resulted in many achievements that have improved operational effectiveness.**

## Public Defense Services' (PDS) Case Management System Upgrade

PDS successfully replaced their aging and unsupported case management system, IRIS, with newer technology, a product called Justware. The new case management system was successfully launched in February 2014, providing all users with a more modern, usable, and supportable system.

Replacement of the new system was essential in resolving several key risks and issues. Due to software bugs, the cost for supporting daily system 'freezes' in IRIS alone was estimated at \$375,000, annually. This, along with the tenuous nature of the hardware involved and the lack of standard data center physical environmental safeguards, led PDS and OET to look for a solution and a new location to secure the data.

Although the rollout process was lengthy, all IRIS users were successfully migrated to Justware as of February 2014. As part of OET's efforts to provide a more secure and stable IT environment, the 25 other servers housed alongside the IRIS servers were also migrated to the OET data center, which now provides a stable environment for the new application as well as high availability.

An added benefit included providing additional space for PDS to expand its staff. Since the old data center resided within the PDS office space, migrating to the new system within OET's enterprise data center freed up valuable office space which will now be refurbished to provide additional four walled offices for staff.

## County-wide Digital Display

In a continuing effort to keep County employees informed, Office of Management and Budget (OMB), Clerk of the Board (COB), and Human Resources (HR) procured numerous digital display monitors. These monitors were deployed by OET to areas where County employees may gather, and could benefit from the information displayed.

In past years, monitors were installed in various break rooms throughout the County, as well as in Change of Venue, Planning and Development, Public Health Clinic, court locations, and near the elevators in the New Administration Building (NAB).

This year, OET installed a monitor for HR use on the second floor of the NAB, monitors for COB use on NAB first floor, and an externally facing monitor for statutory postings of Board meetings. The externally facing monitor, located on the east facing windows of NAB, allows COB to remotely post notices, avoiding the previous need to be physically onsite to post.

## IT Leadership Roundtable (ITLR)

Several subcommittees of the ITLR were established to leverage the collective expertise of County information technology professionals in addressing county-wide issues and opportunities.

During Fiscal Year 2014, ITLR established subcommittees for Social Media Data Retention, Microsoft Enterprise Agreement, IT Records Retention, VMware, Enterprise Standards, and Security Governance. Each subcommittee has participation from several County departments to collaborate on key issues facing the County.

Through the Social Media Data Retention subcommittee, all County departments now have access to data retention services from SMARSH. The subcommittee facilitated the establishment of a master agreement to secure more favorable pricing and to simplify the sign-up process for each department.

The IT Records Retention subcommittee completed its initial work to review and recommend improvements to the current IT Records Retention Schedule. As a result, an improved retention schedule will be presented to the Arizona State Library, Archives and Public Records Division for consideration upon approval from ITLR.

## Partnering for Results (continued)

### Government Relations – Grant Management System

This past year, OET was able to assist the Government Relations Department in selecting an online grants management tool called FluidReview. The tool was successfully implemented in April 2014. In the first six weeks of operation, the tool automatically processed almost 700 email messages while successfully tracking all grant applications. Through the implementation of this new tool, the Government Relations Department realized improved efficiencies and service to its citizens.

The Government Relations Department handles the requests for grant money issued through the Indian Gaming Communities. Each year, the department must process hundreds of requests for grants and must act as a gatekeeper for requests. In the past, all applications were handled manually through email and manual lists.

### Office of Medical Examiner – Digital X-Ray

The Office of Medical Examiner acquired a Digital X-Ray unit, an analog to digital film converter,

and a Picture Archiving and Communication System (PACS ) server.

The new system has had immediate benefits: On the first day it was used, an unidentified body was positively identified by accurately measuring a medical implant. With the previous analog system, this process would have taken at least two weeks to obtain positive results on identification. In addition, the new system allows technicians to add x-ray images with crime scene photographs for law enforcement, streamlining the delivery of evidence.

The new system allows for much greater detailed imaging, with the ability to zoom images, make measurements, and build 3-D models. The PACS system allows multiple simultaneous image viewing, enhancing collaboration and training.

Moreover, the images are now available within 10 seconds of being taken, versus the previous 15 minutes to develop the analog slides.

OET worked with the vendor to install, configure, and test the complete system. New display monitors were also configured in the operatory labs to allow x-ray image viewing.

### Tuition Reimbursement

The new application was completed as planned in April 2014. To date, the new system includes 246 registered users, has processed 146 Degree Requests, 167 Degree Related Class Requests, 11 Job Related Class Requests, and 27 Class Accounting String Requests.

The Tuition Reimbursement application was developed internally by OET staff in partnership with HR's Compensation team to ensure compliance with the new HR Policy on Tuition Reimbursement (Policy HR2430) and simplify the online process for all county employees.

The new Tuition Reimbursement application not only supports the changes in the new Policy, it provides far more automation to both HR staff and Maricopa County employees, making the end to end processing of tuition reimbursement requests simpler and more efficient. The previous application was a fillable form with very limited work flows for supervisor approval (manual process).

Enhancements will be made to the system moving forward as County employees begin providing feedback.



## New MCSO Headquarters Building

OET provided technical assistance, some project management services, management of the technology budget, and worked closely with Maricopa County Sheriff's Office (MCSO) professionals to complete a number of substantial technology related projects within a new MCSO headquarters building (HQ). This building is a five-story and 128,000 square-foot secure facility. In addition to providing administrative workspace for the MCSO, the publicly accessible facility houses a new data center and 911 Emergency Center.

### Collaboration

Ground was broken for this building in June 2012. The building obtained its occupancy goal in November 2013. During this sixteen month period, which resulted in a dirt lot being replaced by a HQ building, a tremendous amount of effort was put forth to complete the building and implement required technologies. The successful accomplishment of the goal could only be obtained by significant collaboration mainly between the MCSO and OET.

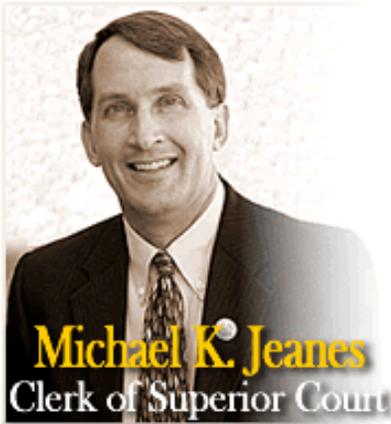
Both of these departments had to continue their own respective operational duties and make progress on other complex projects while also finding a way to enable success for the HQ. In addition to technical competence, the effort required the MCSO and OET teams to work late, work weekends, and work in extremely stressful situations. Through the commitment and collaboration of the individual team members, the project was a success. The County expressed appreciation for these

efforts to the involved employees. In fact, many OET employees, along with several MCSO employees, also received a personal note of appreciation from Sheriff Arpaio.

### Technology Solutions

The building replaces outdated, end of life 911 equipment with leading edge technologies, including the County's Voice over Internet Protocol (VoIP) telephone services, a dedicated telephone system to handle emergency 911 calls and responses, a new computer-aided dispatch/records management system (CAD/RMS) to manage emergency 911 calls, audio-visual systems, access control, security cameras, and a call logging system. The above referenced technologies speak to why the total budget for the building of \$93M reserved a substantial \$19M for just technology. The end result is a technology point of pride for the entire County, but especially for the MCSO.





“As an Office, we are very excited to have this project implemented and the system in place. The new system will allow the Clerk’s Office to continue its mission to improve customer service and employee satisfaction.”

## The One Number Project

**Announcing “37-CLERK” – The Clerk of the Superior Court’s Office new easy-to-remember phone number went into effect May 19, 2014.** All public calls to the Clerk’s Office will be completed by dialing (602)37-CLERK (602-372-5375).

The Clerk’s Office launched an Interactive Voice Response (IVR) system that will allow the public to reach most areas of the office by dialing one number. Callers will select from menu choices for the various areas of the office, and most will reach their destination within three button presses.

Many of the telephone numbers previously listed for public use will be disconnected. For a brief period during the introduction of the IVR system, disconnected numbers will provide a voice message referring customers to the new (602)37-CLERK telephone number.

### Updated Technology

This important project included the necessary transition from the Clerk’s legacy Automated Call Distribution (ACD) system to the new Avaya platform serving the entire county.

The legacy system had reached its end of life and required the Clerk’s Office to move to a more modern and supportable platform. OET and the Clerk’s Office worked together to identify all of the requirements necessary to ensure a effective transition to the new system, including support for the Clerk’s goal for consolidating many phone numbers into its ‘One Number’.

### Innovative Approach

Operationally, the Clerk’s Office implemented a ‘distributed call center’ approach to ensure timely customer service. Through the new ACD, Clerk’s Office staff in several different areas including family support services, criminal financial obligations, and eFiling, can now collectively support incoming customer calls. Staff in these areas is able to answer calls according to the ACD system call distribution.

Each staff member logs in as an available agent, thereby distributing their ability to answer calls while maintaining their current work assignments.

To enable this flexibility, the Clerk required a mobile workforce in each area who could handle their daily operational responsibilities without compromising caller support. The new ACD includes wireless headsets that allow staff to move about their areas to handle their tasks and still answer incoming calls.

### Early Success

Operationally, the Clerk’s Office can quantify incoming calls in aggregate and at the functional level, live and historically, and adjust staff as needed for peak volume management. Caller experience is enhanced by having short navigation to the full scope of services via one number, rather than navigating through multiple numbers.



## Great People Enabling a Professional Workforce

At OET, the pillar of our customer service is the great people we employ. Our goal is to continue to focus on the recruitment and retention of professionals who represent the values of OET and commitment to fulfilling OET’s vision to become a first-class technology organization.

- Customer Service:** Driven to provide dependable, responsive, and customer centric service with consistent follow through.
- Professionalism:** Determined to treat others with kindness and respect and to demonstrate integrity, trust, and accountability in our actions with a positive attitude.
- Communication:** Resolute in our pursuit to communicate in a timely, clear, and honest manner that exhibits respect for ourselves, our customers, and our citizens.
- Excellence:** Committed to continuous improvement in delivering results of the highest standards.

## Recruitment and Retention

**The key to OET’s success in delivering first-class service is our professional workforce. Each day, our professional staff strive to provide our customers with quality and timely service.**

Maintaining and growing our workforce is a top priority to ensure OET can meet and exceed service expectations. As one of the most competitive markets in the country, Maricopa County is faced with the challenge of competing to recruit top IT talent. A recent article from CIO.com ranked the top 10 cities for technology careers; Phoenix was ranked as number four, and highlighted technology salary growth as the fourth fastest in the country. Average technology salaries increased by an impressive 12 percent year over year.

### Compensation

Recognizing this challenge, OET, in partnership with County Management and IT Leadership across the County, worked to identify key issues related to the compensation structure for IT professionals.

### IT Market Study

In January 2014, the Board of Supervisors approved adjustments to specific Market

Range Titles (MRT) as a result of the IT Market Study. These adjustments helped to address retention and recruitment issues associated with these positions throughout the County.

A total of 19 MRTs were reviewed in depth, which affected 42% of OET’s staff. In addition, the market ranges for the affected MRTs were also adjusted to better reflect current industry pay ranges to assist in future recruitment for those positions. The remaining MRTs have been submitted by the CIO for consideration this fiscal year.

### Retention Pay

The Board of Supervisors approved a FY2013-2014 Retention Pay Plan to assist all departments with addressing retention issues. The Plan provided for a 4.95% pay increase for eligible employees.

In addition to this increase, some employees received Critical Retention-Based Equity pay tied to market rate data. These increases represent Maricopa County’s commitment to its employees, both for IT and business, for continued efforts toward lean government and service innovation.

Productivity is never an accident. It is always the result of a commitment to excellence, intelligent planning, and focused effort.

- Paul J. Meyer

Founder, Leadership Management Institute

## Improving Productivity

**As our most valuable asset, OET's focus is to ensure the most productive and rewarding environment for our employees. This includes their physical work environment, the tools they utilize in the performance of their duties, and the opportunities for professional development.**

Through initial employee meetings with all OET staff, the CIO identified several issues raised by staff concerning constraints to their productivity, including internal system issues. Responding to these concerns, OET initiated efforts to evaluate these systems to determine deficiencies and opportunity for improvement.

### Internal Systems Study

In late Fiscal Year 2014, OET released a Request for Proposal (RFP) to secure an industry partner for the detailed analysis of OET's internal systems. Through this process, a leading firm with Information Technology Infrastructure Library (ITIL) expertise was selected to perform the study. Grant Thornton, the selected partner, has worldwide expertise in this discipline and has already begun work to assess our current systems.

The purpose of this initiative is to conduct an analysis of the current systems and processes used within OET to fulfill service and develop recommendations for efficiency improvements through the streamlining and alignment of operational processes and supporting technologies based on ITIL principles. This effort is intended to yield significant savings and efficiencies for OET by lowering total cost of ownership (TCO) through system reduction and integration and better use of staff time via automated and streamlined processes.

This project is also in direct support of, and represents the next steps for the newly defined service catalog and charge back models OET recently developed. The processes and supporting systems will be designed to track critical information for proper allocation of resource time to service fulfillment, as well as asset, configuration and change management, which reduces risk throughout the enterprise environment.

### Work Environment

We recognize the importance of the work environment, including how ensuring the

most modern tools will enable the productivity and innovation of our employees. Several key advancements have been made to support our environment including the utilization of BYOD, mobility (including laptops and tablets), and teleworking.

### Tenant Improvements

In partnership with Facilities Management, OET has identified improvements to the physical work environment that include updating cubicles to conform to County standards, reconfiguring work areas to provide a more open space to promote collaboration and teamwork, and expansion to newly vacated areas within our building to accommodate the relocation of certain staff and allow for targeted project development areas for contractors and vendors.

During Fiscal Years 2015 and 2016, OET will work closely with Facilities Management to complete the improvements identified in the plan.



“I was able to get 20 or more hours of work completed on my trip last week to DC due to the ease of data accessibility.”

- **Catherine Robbins**  
Public Fiduciary



“It would previously take me 15 minutes to setup my computer for each appointment, now it’s only 1 minute, maybe, and I can take notes right on the tablet.”

- **Trista Underwood**

## A Mobile Maricopa



**Maricopa County recognizes mobility is not simply putting a device in the hands of employees or customers, creating an application and expecting instant adoption or engagement. Mobility is about fully engaging the individual to have real-time information, a seamless view of everything and the ability to interact while on the move.**

OET is setting sites on mobilizing the workforce and community. OET is committed to providing County employees with mobile solutions – including geospatial information and social media – to better serve Maricopa County residents in a more efficient and effective way through the use of mobile technologies.

Mobile technology enabled several Maricopa County Departments to streamline business process and improve efficiency and services offered to Maricopa County residents. Maricopa County employs many mobile workers to cover the needs of citizens. The County also provides important information to citizens used to make decisions such as where to dine out or the quality of air on a particular day.

### Public Fiduciary and Constables

OET worked with the Public Fiduciary and the Maricopa County Constables with slim tablets, laptops, and mobile printers. The Public Fiduciary employees now utilize tablets

that provide all the features of a laptop without the bulk and awkwardness of carrying a laptop. These employees are now able to securely connect to County resources while traveling, without interruption and without requiring a complex login process.

Additionally, the tablets utilize newer technology that allows these staff to securely connect to County resources while traveling, without interruption and without requiring a complex login process.

OET also worked with the Constables to outfit a pilot group with a mixture of laptops and tablets, mobile printers, Verizon 4g MiFi devices, and NetMotion VPN technologies.

This setup allows the constables to remain mobile, roaming their areas of the city, while maintaining secure and stable access to the County network and their business applications. Recently, when asked about how they like this mobile access and ability, a constable replied with... *“I love having the access I do from the car, such as right now, I’m answering you from the car (parked, of course)”*. - Constable Ron Myers

### Office of Medical Examiner

The Office of Medical Examiner implemented NetMotion for remote access to network resources for mobile staff.



# A Mobile Maricopa (continued)

The primary recipients of this service are the field investigators. These staff members experienced a dramatic improvement in productivity. The investigators now have the ability to log information, add pictures and notes, and other details, at the site. NetMotion handles all the connection details for the staff member in the background.

This saves valuable time, about 20 minutes per incident, to access applications and log results. This time savings has directly influenced the ability for investigators to improve the quality and timeliness of site examinations. The staff can focus on gathering information and documentation, instead of time spent waiting on connections or reconnecting to resources. The time and effort to access network resources remotely is greatly reduced. Staff can focus on their job and not worry about the maintenance to keep the laptop connected and accessible.

## Environmental Services Restaurant Rating Application

The Environmental Services department partnered with OET to develop a Restaurant Ratings application that is mobile-friendly. Using Responsive Design technology, OET developed an application that works across desktop/laptop and all mobile device platforms. The Restaurant Ratings app provides a web-based interface to an interactive application to support online inquiries regarding restaurant inspection results. Maricopa County citizens can look up a restaurant by location or name and view inspection results from home or when on the move.

## Environmental Services Mobile Inspection Application

The Environmental Services department partnered with the Office of Enterprise Technology Regional Development Services Application team and a solution provider to deliver a mobile solution that enables inspectors to perform routine inspections in the field even when there is no network connectivity. Often inspectors go into locations that have little or no cellular coverage. The mobile inspection application enables the inspector to complete an inspection off line and then automatically upload inspection results when network connectivity is re-established.

## Facilities Management Work Order System

The Facilities Management Department partnered with the Office of Enterprise Technology and a solution provider to upgrade the work order system. The upgrade introduced a mobile application that enabled field technicians to capture and access detailed work order information from any mobile device. The new device eliminates outdated handheld BCR readers as well as pagers. Field technicians can now perform all job functions from their hand held mobile smartphone improving employee job satisfaction, efficiency and reduced equipment cost.

## Air Quality Info and Air Pollution Statistics

Maricopa County worked with a solution partner to deliver the Clean Air Make More mobile

application. The Maricopa County Air Quality Department's Clean Air Make More mobile application provides current air quality information and weather forecasts right to your smartphone or tablet. The Clean Air Make More app serves as a reliable resource on current air quality restrictions along with alerts about high pollution advisories, health watches and restrictions for activities such as wood burning, leaf blowers and off-highway vehicle use.

## Environmental Services Vector Control Mobile Inspection Application

The Environmental Services Vector Control division partnered with the Office of Enterprise Technology Regulatory Systems Regional Development Services Application team and a solution partner to implement a mobile friendly application integrated with Geographic Information Systems (GIS) data to streamline Vector Control inspection and enforcement routing. The application also provides the ability for the inspector to enter inspection or treatment information while still on site.



# Citizen Engagement

**OET recognizes that citizens expect to interact with the County from the convenience of their homes and mobile devices.**

In order to improve access to information and services, OET completed the design and development of several websites for County departments that provide for more convenient access to important County information and services. The websites incorporate responsive design to improve viewing of content on most mobile devices.

## Veterans Resources

The Maricopa County Veterans Resource Portal (<http://www.maricopa.gov/veterans>) provides consolidated information through an outward-facing, mobile friendly website to veterans and their families on programs, services and resources provided by federal, Arizona State, Maricopa County, other local government agencies and community resources.

## Government Relations

The new Government Relations website (<http://www.maricopa.gov/GovernmentRelations>) was developed to improve citizen access to important and timely information. Maricopa County Government Relations works to educate and assist

County departments and constituents, and to represent County interests in many political arenas, including White House, Congress, National Association of Counties, Tribal Governments, State Legislature, County Supervisors Association, Maricopa Association of Governments, and Valley Metro (RPTA).

## ICJIS

The Integrated Criminal Justice Information System (ICJIS) is a Maricopa County department that assists stakeholders to electronically exchange data between their mission critical case management systems and other County, state and federal partners. ICJIS is recognized at a national level, as well as within Arizona as an innovative leader in criminal justice and law enforcement data exchange and integration. Their website (<http://www.maricopa.gov/icjis>) was redesigned to improve access to information about ICJIS, including ICJIS stakeholders.

## Cyber Security

The Maricopa County Cyber Security Portal provides a number of benefits to citizens, other jurisdictions (State, city, and other counties), and employees. The portal is meant to be a site where personnel from these various groups are able to gather information in regards to cyber security safety online.

Specifically, citizens are able to access a website within the portal that provides resources to educate the general population on strategies and tactics that can be implemented to keep them safe online. The portal was developed by the Maricopa County Office of Enterprise Technology (OET) to improve the safety of citizens as well as to improve the security posture of the County and other jurisdictions. Visit:

<http://www.maricopa.gov/technology/security>

## Office of Enterprise Technology

OET completed an update of its internet site to improve visibility of OET's strategic plan, accomplishments, and organizational structure for employees, citizens, strategic partners, and prospective employees. The improved site provides easier access to information that is important in the development of stronger partnerships within the County and improved interaction with the vendor community and partners who provide important service and products in support of the development of strategic initiatives.

<http://www.maricopa.gov/technology>



## Improved Reliability Ensuring Access to Services

Reliability of the County's network and computing resources is critical to ensuring business continuity. Each day, County departments rely on technology to serve our citizens and community partners – from timely filing of court documents to property tax filings to voting. Reliable access to these services is essential to the ongoing operations of the County.

OET provides and supports the network infrastructure for approximately 250 facilities located throughout the 9,200 square miles that encompass Maricopa County. Just as roads and highways require resurfacing, additional lanes, and traffic controls, so does the complex wired and wireless networks that ensure County communications are reliable, capable, secure, while simultaneously meeting the requirements of the business.

## Reliability and Availability

OET has made a significant investment in the County's technology infrastructure, including the completion of several network refresh projects. These projects are essential to County operations to ensure reliability and availability of computing resources.

### Network Refresh

The network refresh initiative includes several projects approved by the County to replace aging and failing network equipment throughout the County.

#### **Durango Campus**

This project was substantially completed this fiscal year, including the construction of new telecommunications rooms, new cabling, removal of old cabling, and the installation of new network equipment. The majority of the effort necessary to migrate users to the new network was also completed, with the remaining tasks slated for completion in early Fiscal Year 2015.

#### **Remote Site Study**

The County's current network infrastructure within remote sites, which are defined as buildings outside of the Durango Campus, Southeast Campus,

and Downtown Campus, do not meet OET and industry minimum standards to ensure a reliable, secure, and supportable infrastructure, which creates risk of service outages affecting the delivery of County services.

This fiscal year, OET completed the planned study of the County's remote sites to identify the scope and cost of necessary improvements. Based on the results of the study, OET received approval to proceed with the project in Fiscal Year 2015, prioritizing those sites with the legacy phone system.

Completion of the remote site network refresh project represents the conclusion of OET's strategic initiative within its Strategic Plan to improve the foundation for network communications, including improving power consumption and mitigating outages related to aging network equipment.

### Call Distribution System Replacement (ACD)

OET successfully moved departments from its ten-year old legacy ACD system, which was failing, had experienced prolonged service outages, and was

# Reliability and Availability (continued)

ACD system. 35 different County entities that relied on the legacy ACD system to properly route calls, from both employees and the public, to the right source of information are now using new and redundant equipment.

As a result, customers and employees have improved, reliable service when calling the new system, including updated call flows that direct them more accurately to the right support within each department to answer their questions or resolve their concerns.

## Data Center Colocation

The County's data centers, which are the critical foundation of the County's ability to provide essential IT services to departments and citizens, including public safety agencies, does not meet acceptable standards for an enterprise operation of a County our size.

Moreover, the current environment creates unacceptable risk of failure and is costly to maintain or improve, as detailed in the Data Center Colocation study commissioned by OET and developed by a nationally recognized vendor.

During Fiscal Year 2014, OET prioritized efforts on planning and moving the County to a collocated data center strategy. As a result, OET is finalizing an agreement with Phoenix IO, a certified Tier 3+ data

center that provides 100% guaranteed up-time for power, cooling, and network.

The successful colocation of the County's data centers fulfills another OET strategic goal to relieve the County of managing data centers within people-purposed space while significantly improving reliability, reducing long-term operating costs, and providing the required growth-on-demand to meet increasing customer needs for storage.

## ONS Ring

As bandwidth needs continue to rise within County departments, it is necessary to implement an Optical Networking Services (ONS) ring that will provide adequate bandwidth, 100 GB, between County data center locations and identified campuses in order to deliver 1 GB to the desktop, where possible.

OET worked closely with our vendor and implementation resource vendors to evaluate and design the optimal ONS solution. As of the close of this report, the ONS High Level Design (HLD) was finalized and the completion of the ONS ring is anticipated in the fall of 2014.

The successful completion of this project will provide long-term bandwidth capacity to support departments increasing utilization of technologies enabled by unified communications including video conferencing, online collaboration, electronic document

management, geospatial information systems (GIS), and Voice over Internet Protocol (VoIP).

Implementation of the ONS Ring provides the foundation for OET's strategic initiative for network architecture and design optimization, which will improve OET's ability to effectively manage the network, improved efficiencies, meet service expectations for an 'always up' network, and enable strategies for a software defined network

Additionally, this will provide the County with the capability to explore and implement emerging technologies including cloud services and virtual desktops that will provide improved access to County services for employees and citizens.

## Enterprise Storage (3PAR)

The purpose of this effort was to consolidate OET's various storage devices onto a new enterprise storage platform while reducing complexities, decreasing the total cost of ownership, and providing the expected level of storage services to OET's customers.

OET realized a cost savings of \$2 million over a five-year period for the entire solution, which includes all the hardware, support, and professional services required to move data from the current platform to the new storage.

The 3PAR enterprise storage solution provides an expected availability of 99.99999%; allowing for automatic failover between sites, self-healing, and automated array monitoring and response. Since implementation, critical applications and systems utilized by county employees and citizens have experienced 100% reliability and availability in services provided by this storage solution.



## Cyber Security Protecting the County's Information

OET is committed to information security for our County, our employees, and the community.

In October 2013, OET launched a Cyber Security Portal for Cyber Security Awareness designed to provide education and awareness to Maricopa County employees, citizens, and other counties. The County is proud to be recognized by the MS-ISAC as the "Most Cyber Aware State and Local Government" in the United States for 2013.

To learn more, visit:

<http://www.maricopa.gov/technology/security>

## Risk and Security Management

Cyber security is a growing and significant issue affecting citizens and organizations across the nation. Each week there are new headlines concerning cyber-attacks and the incredible impact to individuals and organizations, private and public sector.

The risk to the County's information assets has increased as Cyber Security threats have grown. These risks include dissemination of critical information – personally identifiable and confidential information processed by the County's Computer Information Systems. In an effort to address these risks, the County has refined its approach to establish a security posture that will facilitate safety on the web for citizens, the County's network and help other jurisdictions.

### Strategic Approach

To protect the County's investments, focus has been placed on securing the County's information assets through the development and enhancement of OET's Cyber Security Portfolio. Our approach is to make thoughtful investment in a Defense in Depth approach that will strengthen

the County's resilience to Cyber-attacks and seek to mitigate liability and risk.

### Awareness and Collaboration

Cyber security awareness is an essential component to risk mitigation. Each and every employee in Maricopa County represents both a risk and an opportunity. As each employee has access to the network, they represent a risk and vulnerability for exploitation from threats.

In order to mitigate these threats, OET has increased its cyber security awareness with employees, including the development of the Cyber Security Portal and targeted cyber security awareness campaigns. This includes the Board of Supervisors proclamation for Cyber Security Awareness month in October each year.

### Security Operations

For Fiscal Year 2015, with the support of County Management and the Board of Supervisors, OET will grow its security capabilities with the addition of several new positions focused on cyber security efforts.



## The Information Security Portfolio

The information security portfolio is comprised of a set of programs designed to identify, manage and mitigate cyber risk. These programs include; Governance, Security Operations, Cyber Assurance and Security Architecture. Together they address the totality of Threats, Impacts, and Vulnerabilities which represent Risk to the County.

### Enterprise Governance

Emphasizing security awareness through department engagement, awareness and the development of processes and procedures, including the CIO's establishment of the Cyber Security subcommittee of the IT Leadership Roundtable.

### Focused Security Operations

Focuses on the identification and eradication of cyber security threats attempting to breach County information systems.

### Strategic Cyber Assurance

Concentrated on identifying County weaknesses, testing defenses and understanding the impact of Cyber Security threats, limiting threats' ability to attack the County.

### Organized Security Architecture

Organized to implement security controls that mitigate the root cause of cyber security impacts and to facilitate the implementation of secure technology.

## Planning and Partnerships

During Fiscal Year 2014, OET's security division developed its strategic plan for the increased investment in additional resources necessary to keep pace with the increasing risk posed by Cyber threats. OET, working with the County's Risk Management department, also secured Cyber Security Insurance through a leading provider.

Additionally, OET strengthened its local and national partnerships with the National Association of Counties (NACo), MS-ISAC (Multi-state Information Sharing & Analysis Center), Center for Internet Security (CIS), FBI Infraguard, and Arizona Cyber Threat Response Alliance (ACTRA) to promote information security through increased public awareness and threat intelligence.

## UNDERSTANDING THE CYBER THREAT

**Malware** - Computer programs designed to do harm to computer systems (e.g. steal sensitive information, steal money, cause denial of service, etc.).

**Watering Holes** - Infected websites which infect users with malware when they visit them.

**Spam (Phishing)** - Email that is sent to people in masses, designed to get them to click on links or open attachments that contain malware.

**Email Spear Phishing** - Email that is sent to specific people in a targeted manner, in order to get them to click links or open attachments that contain malware.

**Email Whaling** - Email that is sent to specific executives with a personal touch in a targeted manner, in order to get them to click on links or open attachments that contain malware.

**Botnets** - Malware programs that infect hosts and provide access for threats into a computer network, by passing the firewalls and other ingress access control measures.

**Advanced Persistent Threat (APT)** - Computer hackers that target specific organizations using a combination of malware, spam, botnets, etc. to gain access to steal information or sell access to the network that they have compromised.

**Social Engineering** - The art of tricking people into providing information that can be used to gain unauthorized access or steal information.

**Third Party Vendors** - Third parties, such as cloud providers who maintain privileged connectivity to the County, do not maintain good security posture, which may result in compromise of the County network by virtue of the trust relationship.



### Smart Investments

## Long-term Fiscal Accountability

OET is committed to sound fiscal management and the smart investment of capital funds for information technology solutions that seek to reduce total cost of ownership, where possible. We recognize that for every dollar invested in information technology, it is not invested elsewhere. Our investments must generate value for the County through improved customer service delivery and reduction in operating expenditures.

### FINANCIAL PERFORMANCE – FISCAL YEAR 2014

<u>General Fund (Fund 100)</u>	<u>Telecom (Fund 681)</u>
\$237,000 under budget	\$550,000 under budget

## Financial Management

In Fiscal Year 2014, OET continued to implement and refine tools and methods that emphasize financial discipline.

### Managing Investments

In Fiscal Year 2014, OET further improved its financial processes including the application of standard criteria for all investments. We consider, as example, the following criteria for the initiation of all projects:

- *Strategic Alignment:* Does the investment support County priorities, OET priorities, and enterprise technology standards?
- Does the project create overall and *long-term value* to the County financially, including reduction of operating expenditures
- Will the investment *improve customer service*?
- Does the project mitigate technical and business risk for the County?

Through this process, OET is focused on the alignment of solutions that support lean government and customer service, including improved interactions with citizens and the Business community.

### Zero Based Budgeting

OET was one of a handful of departments chosen to participate in the Zero Based Budgeting (ZBB) method. While the process was somewhat expedited, OET developed 42 decision packages that defined each service within the department, along with the associated investments required to provide information technology services throughout the County.

In addition to the base budget request, OET submitted decision packages and a Project Funding Request Summary, which outlined the major technology initiatives for consideration by the County, each of which outlined details on the investment criteria.

### ICJIS Administrative Support

OET is now providing financial services and human resources support for Maricopa County's Integrated Criminal Justice Information System (ICJIS). This includes assistance with contract management, purchasing and payments, and budget preparation and maintenance.

### OET's Guiding Principles for IT Decision-Making:

- **Value people** as a critical success factor to any investment
- Target IT investments to **maximize business value** and impact
- **Reduce total cost of ownership** of all IT systems by factoring ongoing flexibility and low-cost maintainability into design and approach
- Make **service to constituents** a key design objective for systems that serve citizens and businesses
- Focus on **streamlined operations** and ease of use for Maricopa County employees and citizens
- Promote integration and interoperability via **enterprise-wide standards**
- Promote and encourage convergence of systems that create **enterprise efficiencies**
- **Protect information** privacy and security by enforcing security policies and standards
- Follow **open standards** where appropriate to reduce dependency on specialized skill sets and proprietary products and services
- Build clear **accountability and integrity** into all IT-related management processes

## Financial Management (continued)

### Transparency

A key priority for OET is to create greater transparency for costs and service measures. To this end, OET completed its initial work on the development of a Service Portfolio and Service Catalog, as well as the related cost allocation methodology.

### Service Catalog

OET and a leading national firm, Grant Thornton, completed the development of its Service Portfolio and Catalog in Fiscal Year 2014. The Service Catalog outlines all of OET's services within nine service bundles. Each service bundle will provide departments with an understanding of each OET service, including the associated costs and benefits.

The development of the Service Catalog represents OET's commitment to provide transparency of operations that will further enable OET to refine its current services and develop new services in response to the needs of all departments. Through this improved transparency, OET and departments will have the information necessary to improve decision making and collaborate on future investments that support business innovation.

To support additional refinement of the service catalog, including processes and systems

necessary to implement and maintain the catalog, OET initiated a Business Systems Study to review internal processes and systems to identify improvements that will support the new service catalog and cost allocation.

### Cost Allocation

In partnership with Grant Thornton, OET developed an improved cost allocation methodology that will improve transparency for all IT costs.

The new methodology was developed utilizing the newly created service bundles, which creates a more detailed view of all costs necessary to deliver a particular service, including costs for supporting core service such as network, data center, and information security.

OET is working with the Department of Finance and OMB to outline a plan for future implementation of the new allocation methodology. Additionally, OET purchased the cost allocation software, which includes the full cost model and data for each of the service bundles, including allocations to each County department.

# Recognition

**OET partnerships with County departments resulted in several NACo Achievement Awards.** Through the successful partnership with County departments, OET was honored to receive NACo awards representing achievement in improving citizen engagement and operational effectiveness.

## No Lost Pets

In an attempt to increase the number of lost animals returned home, Maricopa County Animal Care and Control (MCACC) partnered with OET to create an interactive map designed to assist pet owners in their search for their lost animal. Geographic Information System (GIS) is used to geo-locate the locations of lost pets, which are then displayed on a web map.

The map is easily accessible through MCACC's main website and was made available in September 2013. The map allows pet owners to perform various searches, including entering the cross streets of where their pet was last seen; entering a home address; or, by GPS to determine an owner's current location and searching from that point. Photos of animals that have been brought to MCACC appear on the map, along with a brief description and animal identification

number. Pet owners then call MCACC with the animal identification number and are given instructions for how to claim their lost pet. The website is:

<http://www.nolostpetsmaricopa.org/>

## Cyber Security Awareness

The Maricopa County Cyber Security Portal provides a number of benefits to citizens, other jurisdictions (state, city, and other counties), and employees. The portal is meant to be a site where personnel from these various groups are able to gather information in regards to cyber security safety online. Specifically, citizens are able to access a website within the portal that provides resources to educate the general population on strategies and tactics that can be implemented to keep them safe online. Other jurisdictions can leverage the site's links to tools, best practices, and templates, in support of Cyber

Security Program development. Finally, Maricopa County leverages another site within the portal to make available general security awareness practices to its employees.

The portal was developed by OET to improve the safety of citizens as well as to improve the security posture of the County and other jurisdictions. Visit:

<http://www.maricopa.gov/technology/security>



# Recognition (continued)

## Veterans Website

The Maricopa County Veterans Resource Portal (<http://www.maricopa.gov/veterans>) provides consolidated information through an outward-facing, mobile friendly website to veterans and their families on programs, services and resources provided by federal, Arizona State, Maricopa County, other local government agencies and community resources.

Historically, veterans and their families had to search through many websites to find information on benefits and services. This process was cumbersome, time consuming, and ineffective. The Maricopa County Veterans Web Portal coalesce all useful information into a single website that serves as a one-stop clearinghouse to link military veterans to employment, housing, legal, training and education, wellness, and other services.

The Veterans Resource Portal Team worked with OET to implement a solution for consolidating and organizing relevant information under one umbrella. The site was unveiled on November 5, 2013, during a celebration in honor of Veterans Day.



## GIS

The purpose of the County's GIS Program (<http://gis.maricopa.gov>) is to create enhanced citizen access to County services, and improved management of those services for County departments, through the effective implementation of GIS county-wide. GIS services include the development and maintenance of a GIS data warehouse, the acquisition of aerial photography, the development of web services to provide access to data, and the development of websites and mobile applications for access and viewing by the public.

The successful implementation of GIS services has resulted in many meaningful improvements for the citizens of Maricopa County and County departments. Through the successful development of GIS websites and applications, the County can now reunite lost pets with their owners, improve access to education, food banks, and other services for juveniles, improve case management for public fiduciaries, provide visibility to the nearest Fast Med locations for employees, analyze mosquito populations through mosquito traps, and improve effectiveness of emergency response operations. All of these services were developed during calendar year 2013.



OET received Hewlett Packard's (Andrew Manners) award for excellence in business improvements. This award represents the amazing work of OET's data center team for their talent and leadership in creating and maintaining an enterprise storage system that provides reliability, scalability, and disaster recovery for the ever-growing critical data of the County.



County websites and branding	Social Media & Live Streaming	
Geographic Information System	Public Safety Radio System	
Data Center Colocation	ERP	Virtual Desktops
Identity Management	Cyber Security	Internal Systems
Service Catalog	Cost Allocation	Reliable Infrastructure
Business Outcomes	Financial Management	VoIP

## Looking Forward

OET will strive to build off of the success of Fiscal Year 2014 through a continued focus on its strategic plan, ever-aware of the need to provide solutions for County Departments that improve the effectiveness of operations and customer service.

Several projects will be delivered in support of improved efficiency of operations. The projects are identified in OET Strategic Plan and with the support of County management and the Board of Supervisors; these projects were funded in OET's Fiscal Year 2015 budget.

### Data Center Colocation

OET will complete the relocation of County data centers to an off-site Tier3+ facility to realize the benefits of this facility, including a 100% uptime guarantee for provided services.

In support of this project and to improve the available bandwidth for all county departments and employees, OET will implement an Optical Network

Services (ONS) ring between strategically identified locations within the County. This will ring will ensure the increasing demand for bandwidth, driven by new technology solutions such as electronic document management and unified communications, can be met for the next five years.

### Virtual Desktops & Physical Desktops

Based on the results of the recently completed study, OET will strategically implement a virtual desktop infrastructure (VDI) that will support many county employees. VDI will create long term efficiencies for managing employee computing needs and improve OET's capability to provide timely, on-demand service. Additionally, the aging physical desktops will be refreshed with newer systems where virtual desktops are not suitable.

### Internal Systems Improvement

Upon completion of the current study, OET will implement recommendations

# Looking Forward (continued)



in support of its information technology service management initiative. This will address several improvements to OET's current systems that support service requests, asset and configuration management, event management, change management, and IT financial management.

## **Enterprise Resource Planning (ERP) System**

The County and CGI made great progress toward the implementation of its ERP system. In fiscal year 2014, the team completed the planned Envision Phase of the project, which confirmed the County's requirements and identified several product customizations for development in the Create Phase. The County and CGI will continue its collaboration with other county departments throughout the Create Phase to complete the necessary application configuration, data conversion, report development, and system integration leading to a pilot implementation of its performance budgeting module in early 2015.

## **PMO**

For fiscal year 2015, OET will continue its focus on maturing its project management to improve the management of all projects in delivering the desired results, on time and on budget. These efforts will include the development of project portfolio management and project management standards to ensure effective communication, planning, development, financial management, and reporting for all projects.

## **GIS**

Led by the County's new Geographic Information Officer (GIO), the County will continue its great work in expanding the utilization of GIS for all departments to leverage the full capabilities of GIS to create new services and applications that utilize the GIS data to improve county operations and create improved access to services for all citizens.

## **VoIP**

The new Avaya VoIP system will allow for improved workforce and other County efficiencies related to citizen contact engagement, including video conferencing and desktop-to-desktop video. The phased deployment will continue with the Downtown Campus then expand to the Durango and Southeast Campuses following completion of the network refresh.

## **Websites and Branding**

OET will continue its efforts to support departments in their requests to improve their online presence and services to create greater access to information for the citizens of Maricopa County. Improvements will focus on ease of use and responsive design that provides an improved experience for those who search county websites from their mobile devices, including smart phones and tablets, use of social media and video streaming, as well as data analytics.

## **Service Catalog & Cost Allocation**

During Fiscal Year 2015, OET will work closely with departments to share details on the new service catalog and its positive impact on providing departments with greater visibility of technology services and related costs. Through these efforts, OET's business integration team will work closely with each department to educate them on the details of each service, the costs associated to each service, and timeframes for implementation.

## **Reliable & Secure Infrastructure**

Completion of the network refresh projects and network optimization initiative will ensure the systems and applications the County and citizens rely on are highly reliable and available. This foundation will also provide basis for the final tier of OET's strategic plan to support the bandwidth necessary to create opportunities to design and implement new products and services in response to departments' needs for improving their interactions and service for the citizens of Maricopa County.